



ACADEMIC INSTRUCTIONAL CENTER BUILDING USER GUIDE

Facilities Management, November 2008





Credit: NAC Architecture/Opsis Architecture



What is it and why is it here?

The Academic Instructional Center (AIC) opens for classes in winter quarter 2009. The 120,000 s.f. facility accommodates the consolidation and growth of the departments of Psychology and Communication Sciences and Disorders and provides needed general university classrooms, lecture halls and computer labs.

The architects are NAC Architecture of Seattle, Washington and Opsis Architecture of Portland, Oregon.

How does it work?

The structure is composed of two wings joined by a skywalk on the fourth floor. The east wing houses departmental clinics, labs and faculty offices; the west wing houses classrooms, lecture halls and open collaborative spaces to encourage faculty/student interaction. The University has applied for LEED certification (Leadership in Energy and Environmental Design) for the AIC. The building incorporates many "green building" concepts such as solar shading, natural ventilation, energy efficiency and water savings.

What's my part in this?

Enjoy and respect the building as you would any campus facility. Become familiar with it by reading this material and learning how to operate its unique features.

Join the University's commitment to alternative transportation by walking, biking, carpooling or riding the bus to campus.

If you choose to smoke, don't smoke near doors, windows or any other building openings.

What is it and why is it here?

Natural ventilation moves air through portions of this facility through passive means such as wind and pressure differences and solar shading. Instead of relying strictly on air conditioning, ventilation hoods, noisy fans and other mechanical devices, natural ventilation allows the natural physics of air movement to help cool and warm the building. The natural ventilation system uses operable windows, trickle vents, radiant panels, fans and cloud ceilings to increase the energy efficiency of a building and therefore reduce heating and cooling costs.

Western chose the use of natural ventilation in the AIC over conventional ventilation systems as part of the university's commitment to sustainable construction methods.

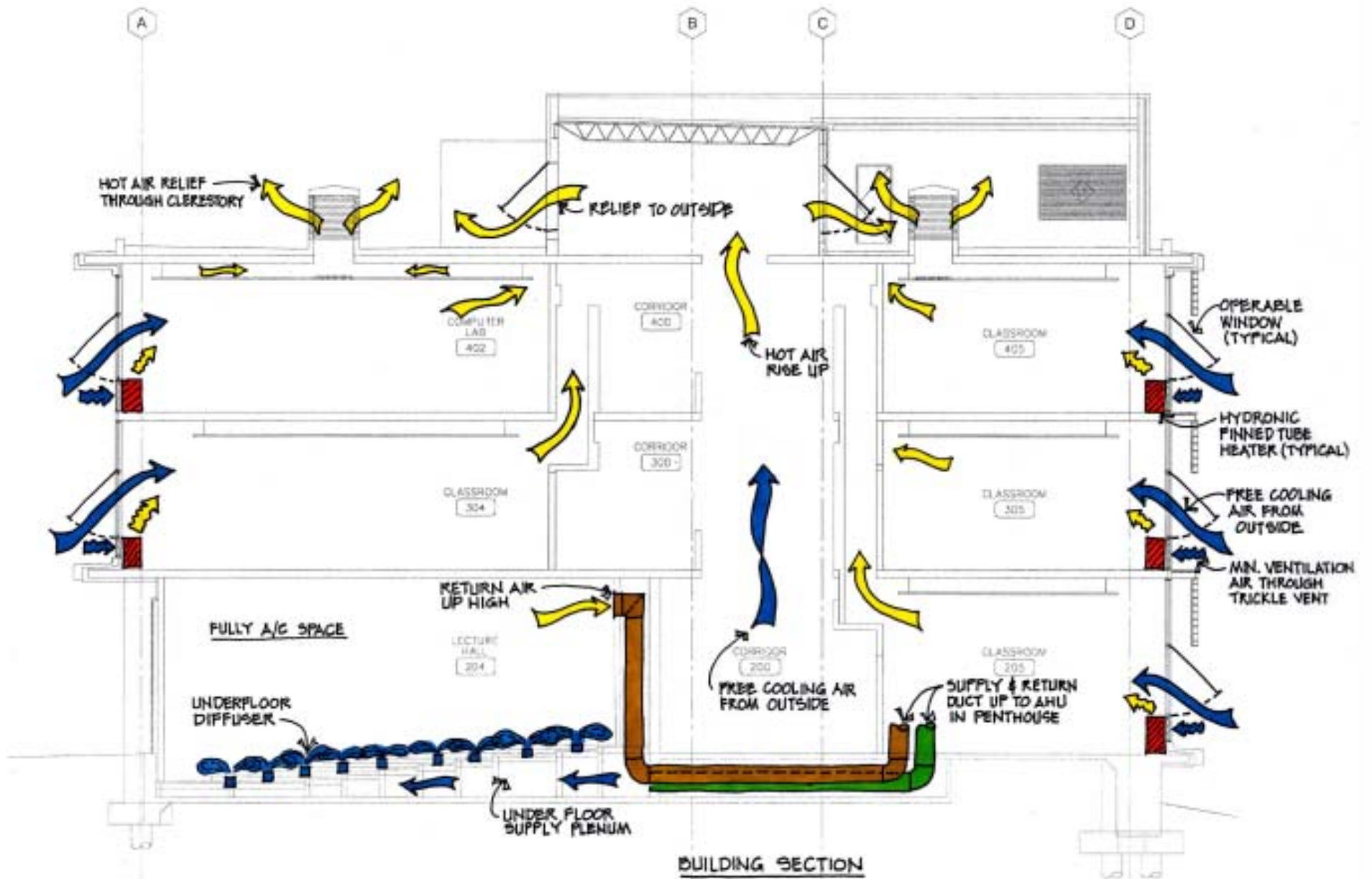
How does it work?

Sophisticated thermostats control the natural ventilation system. Internal monitoring devices initiate the opening of the dampers which allow outside airflow to move inside and circulate. A series of vents are either manually or mechanically operated (depending on location). As the temperature rises, the vents open up more and allow more fresh air to enter. If it gets cool, the vents close back down.

In faculty offices, the occupant can also control the amount of air flow in his/her space by opening and/or closing the trickle vent or operable windows (see “Trickle Vents” and “Operable Window” sections).

In addition, classrooms and offices have “cloud ceilings” which help moderate the temperature of air as well (see “Cloud Ceilings” section). The incoming air flows to the ceiling and is circulated between the structural ceiling and the “cloud ceiling.” The air either warms or cools the room as necessary and then the air exits the space through ceiling shafts and vents.





What's my part in this?

In order for the natural ventilation system to work, you, the occupant, must take an active role in the control of the air in your space. Learn how the elements of the natural ventilation system (operable windows, radiant panels, fans, cloud ceilings and trickle vents) work and how to operate them by reading this booklet. Although the concept of natural ventilation is simple (open the window for fresh air/close to stop air flow), the system in the AIC involves the use of devices you may not have used before. In addition, the results will not be as immediate as turning on an air conditioner or heater, so please be patient. It will take time to learn what works for you and each season will require further adjustments.



**What is it and why is it here?**

Ceiling fans help move air and cool space. As a component of the natural ventilation system, they help increase the air circulation within the building and therefore reduce heating and cooling costs.

How does it work?

The fans in classrooms and faculty offices are all manually operated with a slider switch with four speeds. These are typically located at the door or podium or windows in classrooms.

To increase the speed of the fan (and therefore move more air) push the slider down; to decrease the speed of the fan (and move less air) push the slider up.

To turn the fan off, push the slider all the way down to the “0” position.

The fans in common areas such as the west wing corridors are automatically controlled by the building control system.

What's my part in this?

Use the fan in classrooms and offices to help keep the air at a comfortable temperature. If it's too hot, increase the speed of the fan and be patient as the air cools. The results may not be as immediate as conventional air conditioning systems.

Be sure the fan(s) are off when you exit.



What is it and why is it here?

Cloud ceilings are acoustic tile ceilings that are slightly smaller than and suspended below the structural ceiling. They reduce cooling costs and increase the efficiency of the natural ventilation system that also includes operable windows, trickle vents, radiant panels and ceiling fans.

How does it work?

Cloud ceilings allow air to circulate against the concrete structure above. The concrete structure gradually absorbs warmth which naturally rises throughout the day. This warmth is then gradually released during late evening and early morning hours. This thermal lag effect helps moderate temperatures in the building throughout the day.

What's my part in this?

There's no need for you to do anything related to the cloud ceilings directly, but please see the section on “trickle vents” and “operable windows” for the operation of those elements of the natural ventilation system. Just remember to be patient while the space cools down or warms up since the natural ventilation system may not give results as quickly as the mechanical systems that are more commonly used on campus.





Crank Handle for Upper Windows



Activator Handle for Lower Windows

What is it and why is it here?

Offices and classrooms are equipped with operable windows that can be opened or closed manually by the occupant to adjust room temperature. They work in conjunction with the other elements of the natural ventilation system to maintain comfortable indoor temperatures.

How does it work?

In faculty offices, upper windows can be opened using the wall mounted crank handle. To open the window, turn the handle clockwise. To close the window, turn the handle counter clockwise.

Lower windows can be opened using activator handles supplied at each room.

In classrooms, lower windows can be opened using the activator handles supplied at each podium. Upper ventilation windows are automatically controlled by the building environmental monitoring system.

What's my part in this?

When you want fresh air, open the window. When you want warmth, close the window.

What is it and why is it here?

Trickle vents are occupant controlled slot vents under the windowsill and behind the radiant panel in most offices in the east wing. When open, they allow fresh air to flow through the slot and into the space to help control the room temperature. Along with the operable windows, radiant panels, fans and cloud ceilings, they are an integral component of the natural ventilation system.

How does it work?

The trickle vents are manually operated by the room occupant. To open the vent, push the vent cover with the angled end of the trickle vent tool (bent end facing down) in the raised lip. To close the vent, pull the raised lip on the vent cover with the trickle vent tool (bent end facing down).

What's my part in this?

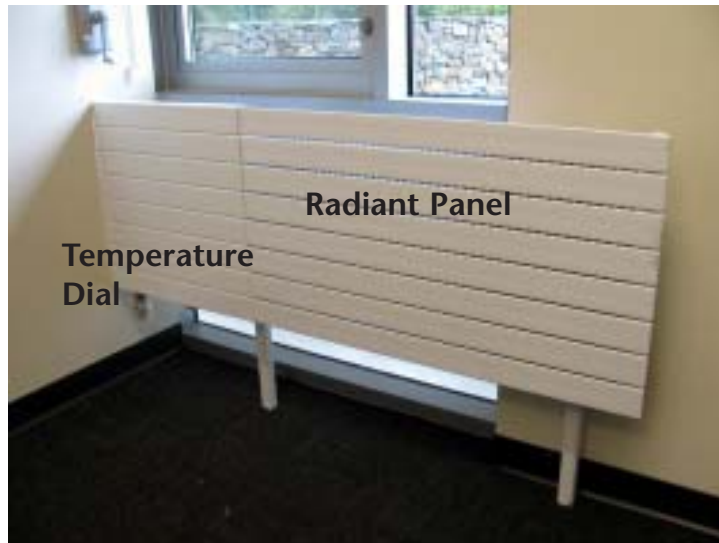
Do not block the vent opening. This will prevent air flow which is your source of fresh air.

In general, leave trickle vents open at least a little; adjust for more or less air. Adjust the radiant panel temperature dial (see "Radiant Panels" section) if you need more heat during cooler weather.

During cold weather: When leaving your office for extended absences, please close the vents. This will preserve building warmth and benefit adjacent offices.

When leaving your office during warm weather for extended absences, please open the vents. This will allow night time cooling to occur and will also benefit adjacent offices.





What is it and why is it here?

Radiant panels are flat panel heaters which circulate warm water to faculty offices and classrooms. The flow of heating water is controlled by the building environmental monitoring system. To accomplish incremental adjustments to room temperature, windows or trickle vents may be opened or closed.

How does it work?

The thermostatic valve (temperature dial) controls the radiant panel. It is located at the bottom edge of the panel. The dial will be set at the standard 68 degree setting (red button aligns with vertical white marking). To lower the temperature, turn the dial counter clockwise. To increase the setting higher than the standard 68 degrees, push in the red button to release the dial and turn clockwise. Release button at desired setting.

Adjust according to your comfort level (generally 68-70 degrees) using the table below.

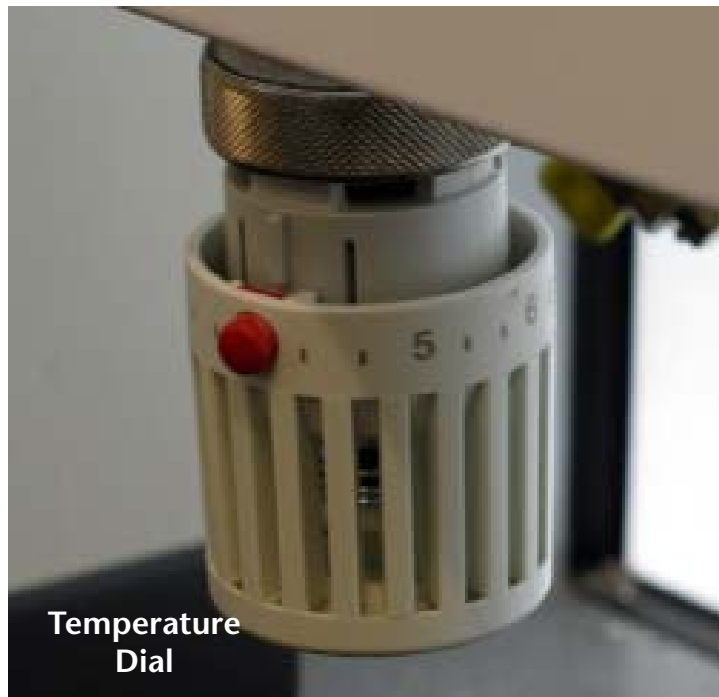
Dial Mark	Fahrenheit	Celsius
0	32	0
*	43	6
1	46	8
2	54	12
3	61	16
4B	68	20
5	73	23
6	79	26

“*” Represents 43 degrees Fahrenheit (6 degrees Celsius)

“B” Represents the red button on knob; press while turning dial.

What's my part in this?

Adjust the temperature dial according to your comfort level and use windows and trickle vents to make additional minor adjustments.



What is it and why is it here?

Occupancy sensors are heat and motion sensitive devices that turn lights off if they don't detect motion/heat for a set period of time. The sensors have been installed in offices and classrooms in order to save energy and reduce power consumption.

How does it work?

Using the dual technology of infrared (temperature change) and ultrasonics (motion), the sensors can detect heat and energy motion by “line of sights” in several directions. The light switch must be in the “on” position in order for the occupancy sensor to work. If the sensor does not detect any changes for a set period of time (15 minutes), it will turn off the lights.

In smaller offices there are wall mounted sensors that have the on/off light switch in one unit. The classrooms, conference rooms, etc. have ceiling mounted occupancy sensors and regular wall light switches.

What's my part in this?

We recommend that occupants turn lights on and off by using the switch. The occupancy sensors were installed to turn off the lights if you forget to use the switch to turn them off. If you rely solely on the occupancy sensor the lights will run for 15 minutes every time you leave the room. Multiplying that by every office and classroom on campus would waste a lot of energy. Occupancy sensors should not be used as automated light switches.

Keep the area in front of the switch clear so that the sensor has a clear “view” of the room.

If you'll be gone for extended periods of time (over break or summer), manually switch the light to the “off” position.



**What is it and why is it here?**

“Prox Cards” – short for “proximity cards” are used at select doors in AIC instead of the traditional “key” system for building security and occupant safety. The cards are plastic and are the size and shape of a typical credit card.

How does it work?

Prox cards contain electronically encoded information. When the prox card is held near a reading device, which in this case is the locking device on a door, the card will activate the reader's system and open the door.

Prox cards for the AIC will open exterior entry doors, stairway doors and select interior doors but generally, these doors will be unlocked during normal business hours. Some interior spaces require conventional keys.

The fifth floor will be secure 24/7. Staff/faculty using those spaces will receive additional training for using the security system.

What's my part in this?

Treat your prox card as you would any key or security device. Do not loan your prox card or keys to anyone. Notify University Police and the University Lockshop immediately if you lose your card or keys.

What is it and why is it here?

Multimedia classrooms are equipped with teaching technologies that are intended to meet faculty requests for classrooms with technology appropriate to individual teaching styles.

All general university classrooms in the west wing of the AIC are equipped as Technology Level 4 classrooms and include a teaching station with installed computer and wireless mouse, document camera, laptop connection and VCR/DVD player, all of which are connected to the ceiling projector for group display. In addition, all rooms have the Classroom Response System and wireless microphones.

How does it work?

The Academic Technology website has online documents on how to operate the equipment in all multimedia classrooms on campus.

Go to: <http://west.wvu.edu/atus/classrooms/orientation.shtml>. Scroll down and click on the room number of your choice. You will be presented with specific instructions on how to use all the classroom equipment complete with photos.

If you'd prefer a personal orientation in a classroom that's new to you, call ATUS Classroom Services at 650-3300, or notify them via email at ClassroomServices.Forms@wwu.edu.

What's my part in all this?

Become familiar with multimedia classroom amenities shown on the ATUS website and select a space appropriate for your use. Immediate technical assistance is available at 650-3300.

Be sure to log off the computer and turn off the projector at the end of the class period.

For help with furniture, lighting and controls, and power outlets call 650-3420, or email the Facilities management Work Control Center at FacilitiesManagement.WorkControlCenter@wwu.edu.



**What is it and why is it here?**

Although the name implies the need to flush twice, dual flush toilets need only be flushed once – either for liquid waste or solid waste. Dual flush toilets are highly efficient and save water – two very good reasons for installing them in the Academic Instructional Center. All the restrooms in the AIC are equipped with these types of toilets.

How does it work?

As the signs posted above each toilet indicate, pull up on the green handle for liquid waste and push down on the handle to flush down solid waste. An added bonus is that the green handle is treated to resist germs.

What's my part in this?

Please flush appropriately and don't flush garbage or anything else that you wouldn't flush down a conventional toilet. By using these toilets appropriately, you are helping to reduce the campus water bill and conserving water at the same time.

If you have an emergency or require immediate assistance, please call:

- Bellingham Fire Department/Aid Car 911
- University Police 650-3911

Please call the Facilities Management Work Control Center to report a maintenance emergency such as:

- Flooding
- Shattered windows (not just cracked)
- Raw sewage spills, overflowing toilets, backed up drains, etc.
- Utility outages (gas, power, water)

Facilities Management Work Control Center Hours:

- Days (8 am to 4:30 pm) 650-3420
- Evenings after 4:30 pm/weekends (University Police) 650-3555

Please call the Facilities Management Work Control Center (650-3420) or fill out a maintenance slip (available from your departmental administration office) for routine maintenance issues.

To report a hazardous or dangerous situation, or to alert us to an event that could cause damage to campus facilities, please call the Work Control Center at 650-3420.

